

Service Manual

Portable Cassette
RQ-2107A

Portable Cassette Recorder with
Built-in Microphone

This is the Service Manual for the following areas.

☐ For all European areas.
(Only for commodities of non-included AC Adaptor type)

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(Only for commodities of included AC Adaptor type)



RQ-2107 MECHANISM SERIES

Specifications

Power requirement: ☐ ... AC; with optional Panasonic AC adaptor RP-657

☒ ... AC; with included Panasonic AC adaptor RP-64

Battery; 6V (four-R-14 size dry batteries)

Power consumption; 4 W

Car/boat battery; with optional Panasonic car/boat adaptor RP-917

Motor: Mechanical governor motor

Power output: 700 mW ... max.

Frequency range: 100 — 7,000 Hz

Operations: Pushbutton one-touch recording with auto-stop mechanism and lockable pause control

Tape speed: 4.8 cm/s (1-7/8 ips.)

Program time: 1 hour with C-60 cassette tape

Fast forward and
rewind time: Approx. 90 seconds with C-60 cassette tape

Track system: 2-track monaural recording and playback

Input: MIC; sensitivity 0.25 mV/applicable microphone
impedance 200 Ω — 600 Ω

Output: Monitor; 8 Ω

Speaker: 8 cm (3") PM dynamic speaker

Dimensions: 14.2 cm (W) \times 6.5 cm (H) \times 25.2 cm (D)
[5-5/8" (W) \times 2-1/2" (H) \times 9-7/8" (D)]

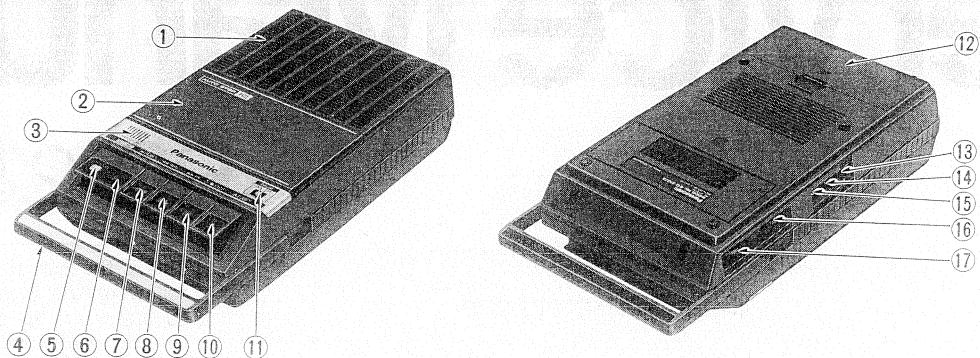
Weight: 1.0 kg (2 lbs, 3 oz), without batteries

Specifications are subject to change without notice.

Panasonic

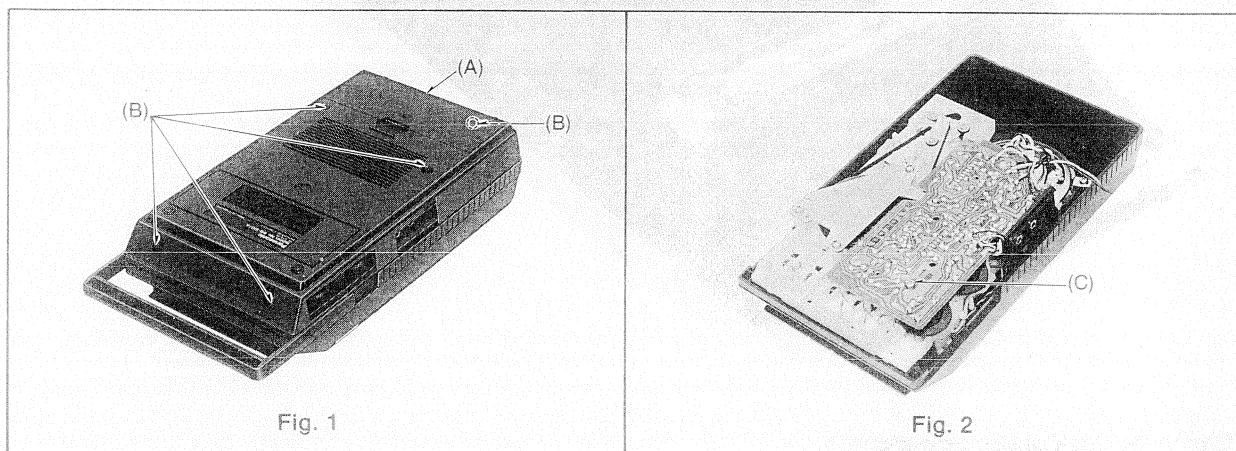
Matsushita Electric Trading Co., Ltd.
P.O. Box 288; Central Osaka Japan

LOCATION OF CONTROLS AND COMPONENTS



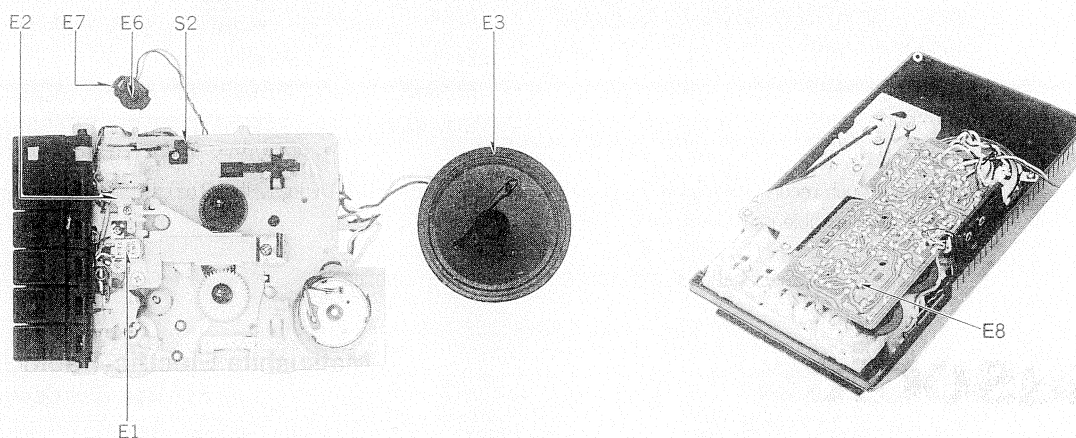
- | | | |
|------------------------------|-----------------------------|----------------------------|
| ① Built-in speaker | ⑦ Rewind button | ⑬ DC IN jack |
| ② Cassette compartment cover | ⑧ Fast forward button | ⑭ Monitor jack |
| ③ Built-in microphone | ⑨ Stop button | ⑮ External microphone jack |
| ④ Handle | ⑩ Eject button | ⑯ Tone control |
| ⑤ Record button | ⑪ Pause switch | ⑰ Volume control |
| ⑥ Playback button | ⑫ Battery compartment cover | |

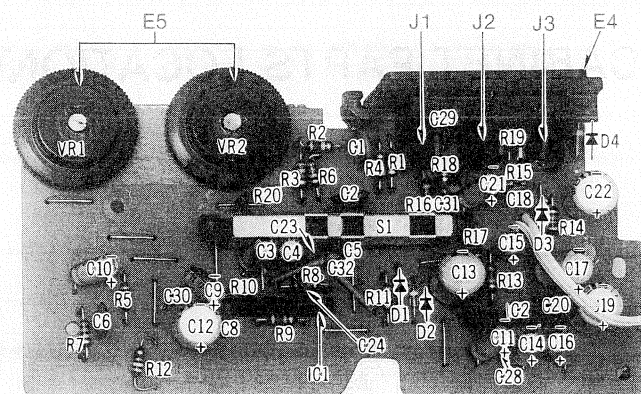
DISSASSEMBLY INSTRUCTIONS



| Procedure | To remove — | Remove — | Shown in fig. — |
|-----------|----------------------|---|-----------------|
| 1 | Bottom case | <ul style="list-style-type: none"> • Battery cover (A) • 5 screws (B) | 1 |
| 2 | P.C.B. and mechanism | <ul style="list-style-type: none"> • 1 screw (C) | 2 |

ELECTRICAL PARTS LOCATION



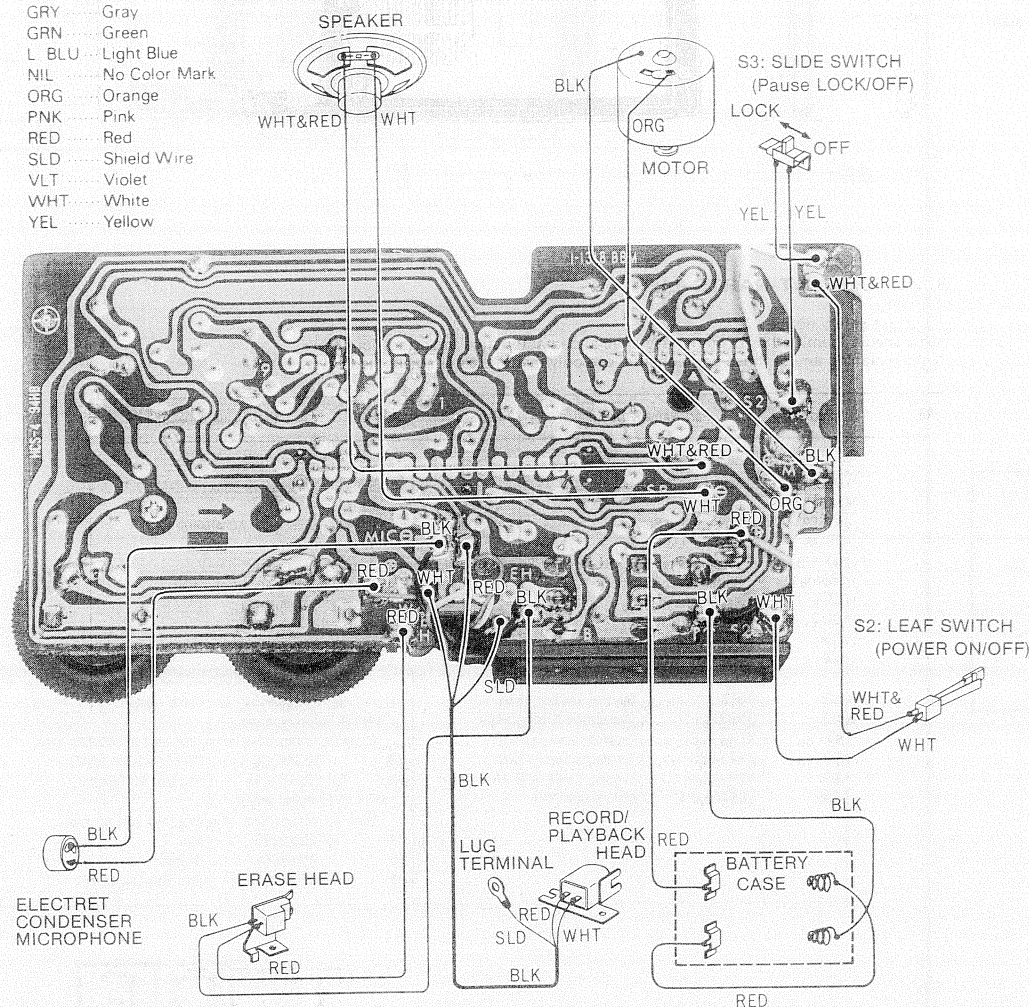


REPLACEMENT PARTS LIST

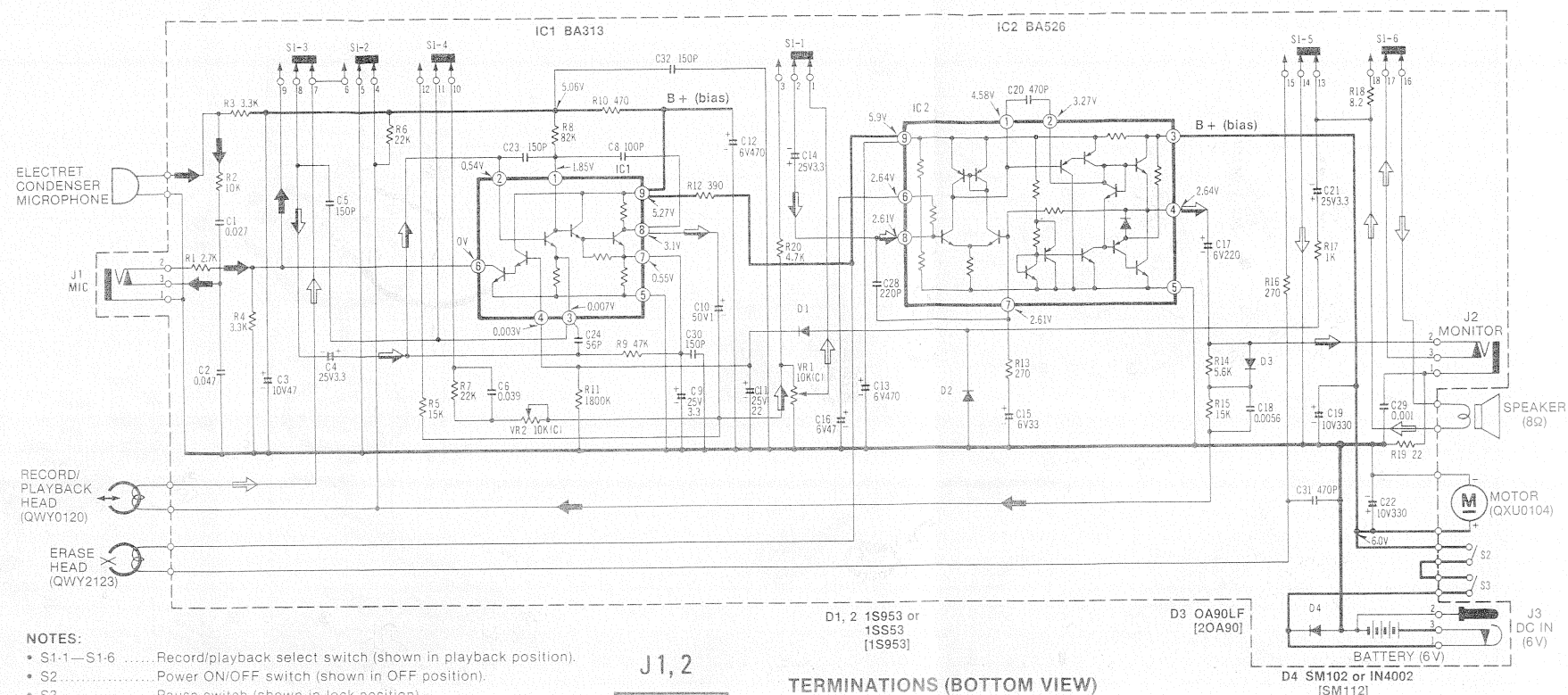
| Ref. No. | Part No. | Part Name & Description | Ref. No. | Part No. | Part Name & Description |
|-------------------------|-----------|-------------------------|----------|----------|-------------------------------|
| ELECTRICAL PARTS | | | | | |
| E1 | QWY0120 | Record/Playback Head | E4 | QGJK0061 | Jack Board |
| E2 | QWY2123 | Erase Head | E5 | QGTK0021 | Volume Knob |
| E3 | EAS8P28SE | Speaker | E6 | WM034Z | Electret Condenser Microphone |
| | | | E7 | QBG1616 | Microphone Rubber |
| | | | E8 | XTN3+8B | Tapping Screw +3x8 |

- NOTES:
- BLKBlack
 - BLUBlue
 - BRNBrown
 - GRYGray
 - GRNGreen
 - L. BLULight Blue
 - NILNo Color Mark
 - ORGOrange
 - PNKPink
 - REDRed
 - SLDShield Wire
 - VLVViolet
 - WHTWhite
 - YELYellow

WIRING CONNECTION DIAGRAM



SCHEMATIC DIAGRAM



- NOTES:
- S1-1—S1-6Record/playback select switch (shown in playback position).
 - S2Power ON/OFF switch (shown in OFF position).
 - S3Pause switch (shown in lock position).
 - VR1Volume control.
 - VR2Tone control.
 - Resistance are in ohms (Ω), 1/8 watt unless specified otherwise.
 - K = 1,000 Ω .
 - Capacity are in microfarads (μ F) unless specified otherwise.
 - P = Pico-farads.
 - All voltage values shown in circuitry are under no signal condition and record mode with volume control at minimum position.
 - For measurement, use VTVM.
 - (\rightarrow) this arrow indicates the flow of the playback signal.
 - (\leftarrow) this arrow indicates the flow of the recording signal.
 - (\rightleftarrows) this arrow indicates the flow of the playback and recording signal in combination.
 - Described in the schematic diagram are two type of numbers; the supply parts number and production parts number for diodes.
 - One type of number is used for supply parts number and production parts number when they are identical.
 - e.g. D4
{ SM102 Production parts number
{ SM112 Supply parts number
 - The supply parts number is described alone in the replacement parts list.

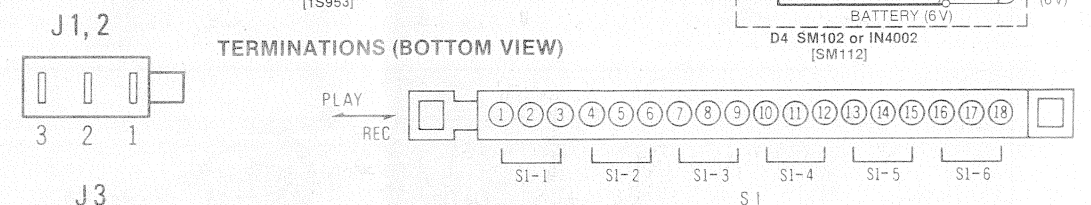
This schematic diagram may be modified at any time with the development of new technology.

SPECIFICATIONS

| | |
|--|--|
| Recording bias current | 200 \pm 20 μ A |
| Standard recording input level | MIC: -72 \pm 4 dB at 1 kHz |
| Overall frequency response | 200 Hz: -5 \pm 5 dB 1 kHz: 0 dB 5 kHz: -3 \pm 6 dB |
| Playback output level | More than 1.7 V |
| * Use test tape: QZZCFM (315 Hz, 0 dB) | |

- Notes: 1. Cut the speaker lead wire.
2. Connect 8 Ω instead of SP.

TERMINATIONS (BOTTOM VIEW)



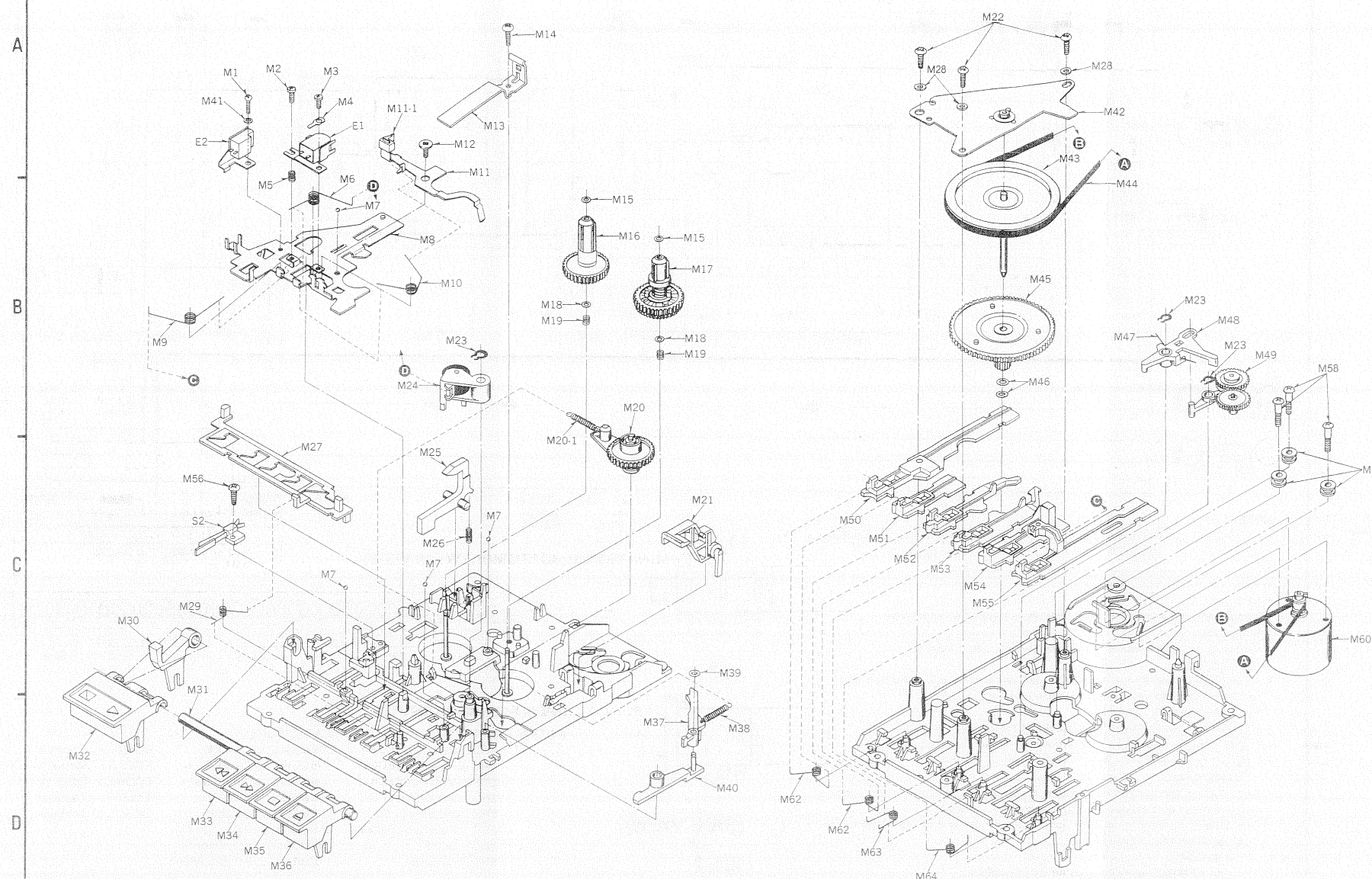
REPLACEMENT PARTS LIST

- NOTES: RESISTORS
- ERDCarbon
 - ERGMetal-oxide
 - ERSMetal-oxide
 - EROMetal-film
 - ERXMetal-film
 - ERQFuse type metallic
 - ERCSolid
 - ERFCement
- CAPACITORS
- ECBACeramic
 - ECGDCeramic
 - ECKDCeramic
 - ECCDCeramic
 - ECFDCeramic
 - ECQMPolyester film
 - ECQEPolyester film
 - ECQFPolypropylene
- DIODES & RECTIFIER
- ECEDElectrolytic
 - ECEDNNon polar electrolytic
 - ECKSPolystyrene
 - ECSTantalum
 - QCSTantalum

| Ref. No. | Part No. | Ref. No. | Part No. | Ref. No. | Part No. |
|------------------|------------|----------|-------------|-------------------------------|-------------|
| RESISTORS | | | | | |
| R1 | ERD10TJ272 | C4 | ECEA5023R3 | C23 | ECKD1H151KB |
| R2 | ERD10TJ103 | C5 | ECKD1H151KB | C24 | ECCD1H560K |
| R3, 4 | ERD10TJ332 | C6 | ECQM1H393J2 | C28 | ECKD1H221KB |
| R5 | ERD10TJ153 | C8 | ECKD1H101KB | C29 | ECKD1H102PF |
| R6, 7 | ERD10TJ223 | C9 | ECEA5023R3 | C30 | ECKD1H151KB |
| R8 | ERD10TJ823 | C10 | ECEA5021 | C31 | ECKD1H471KB |
| R9 | ERD10TJ473 | C11 | ECEA1ES220 | C32 | ECKD1H151KB |
| R10 | ERD10TJ471 | C12, 13 | ECEA0JS471 | DIODES & RECTIFIER | |
| R11 | ERD10TJ185 | C14 | ECEA5023R3 | | |
| R12 | ERD10TJ391 | C15 | ECEA1CS330 | | |
| | | C16 | ECEA1AS470 | | |
| | | C17 | ECEA1AS221 | D1, 2 | 1S953 |
| | | C18 | ECFDD562KVY | D3 | 20A90 |
| | | C19 | ECEA1AS331 | D4 | SM112 |
| | | C20 | ECKD1H471KB | INTEGRATED CIRCUITS | |
| | | C21 | ECEA5023R3 | | |
| | | C22 | ECEA1AS331 | | |
| | | | | | |

| Ref. No. | Part No. | Part Name & Description |
|-----------------|------------|---|
| SWITCHES | | |
| S1 | QSS6211 | Slide Switch (Record/Playback Selector) |
| S2 | QSB0262 | Leaf Switch (Power ON/OFF) |
| S3 | ESD4R14171 | Slide Switch (Pause LOCK/OFF) |
| JACKS | | |
| J1, 2 | RJ19ZA-C | M3 Jack (MIC, MONITOR) |
| J3 | QJA0149 | DC IN Jack |

MECHANICAL PARTS LOCATION



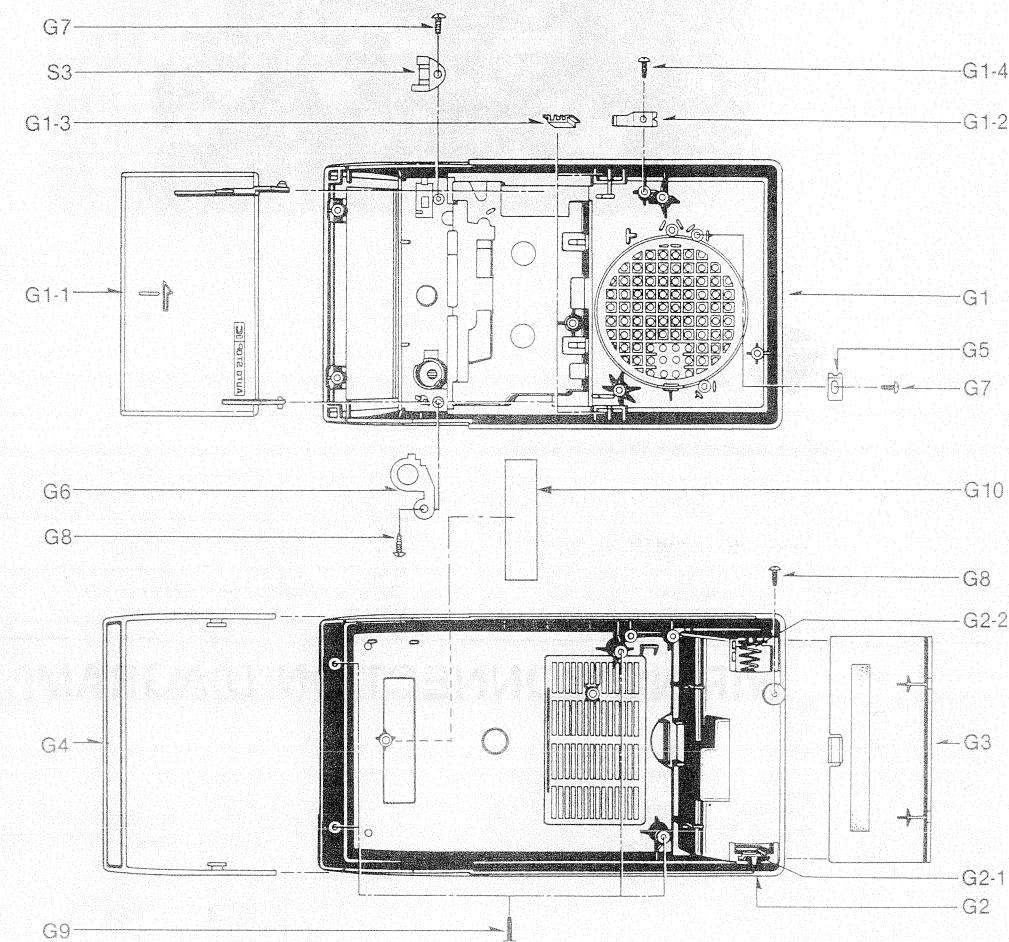
REPLACEMENT PARTS LIST

| Ref. No. | Part No. | Part Name & Description | Ref. No. | Part No. | Part Name & Description | Ref. No. | Part No. | Part Name & Description |
|-------------------------|----------|---------------------------------|----------|----------|----------------------------------|----------|----------|-----------------------------------|
| MECHANICAL PARTS | | | M20 | QXL1181 | Idle Lever Assembly | M41 | XWA26B | Spring Washer |
| M1 | XSN26+4 | Screw $\phi 2.6 \times 4$ | M20-1 | QBT1713 | Record Spring | M42 | QXH0279 | Flywheel Retainer Assembly |
| M2 | XSN2+8 | Head Adjustment Screw | M21 | QML3311 | Cassette-up Lever | M43 | QXF0136 | Flywheel Assembly |
| M3 | XSN2+5 | Screw $\phi 2 \times 5$ | M22 | XTN3+10B | Tapping Screw $\phi 3 \times 10$ | M44 | QDB0219 | Flywheel Belt |
| M4 | QJT0039 | Lug Terminal | M23 | XUB4FT | Stop Ring 4ϕ | M45 | QDG1140 | Gear Pulley |
| M5 | QBC1322 | Head Spring | M24 | QXL1184 | Pressure Roller Lever Assembly | M46 | QBJ3220 | Washer |
| M6 | QBN1580 | Pressure Roller Spring | M25 | QML3308 | Erase Safety Lever | M47 | QBN1582 | Fast Wind Lever Spring |
| M7 | QDK1012 | Steel Ball 2.5ϕ | M26 | QBC1315 | Erase Safety Lever Spring | M48 | QML3304 | Fast Wind Lever-B |
| M8 | QMK1719 | Head Base Plate | M27 | QXR0395 | Lock Plate Assembly | M49 | QXL1186 | Fast Wind Lever-A Assembly |
| M9 | QBN1581 | Base Plate Spring | M28 | XWG3 | Washer | M50 | QMR1661 | Eject Rod |
| M10 | QBN1586 | Auto-Stop Detect Spring | M29 | QBN1587 | Lock Plate Spring | M51 | QMR1767 | Stop Rod |
| M11 | QXL1183 | Auto-Stop Detect Lever Assembly | M30 | QGO1440 | Record Button | M52 | QMR1659 | Fast Wind Rod |
| M11-1 | QBJ1538 | Detecting Piece | M31 | QMN2322 | Button Shaft | M53 | QMR1658 | Rewind Rod |
| M12 | QH01253 | Stop Screw | M32 | QGO1435 | Playback Button | M54 | QMR1656 | Playback Rod |
| M13 | QBP1798 | Base Plate Retainer Spring | M33 | QGO1437 | Rewind Button | M55 | QXR0386 | Record Rod Assembly |
| M14 | XTN3+8B | Screw $\phi 3 \times 8$ | M34 | QGO1438 | Fast Forward Button | M56 | XTN26+8B | Tapping Screw $\phi 2.6 \times 8$ |
| M15 | QBW2008 | Snap Washer | M35 | QGO1433 | Stop Button | M58 | QH01309 | Step Screw |
| M16 | QDR1121 | Supply Reel Table Assembly | M36 | QGO1439 | Eject Button | M59 | QBG1420 | Motor Cushion |
| M17 | QXD0090 | Takeup Reel Table Assembly | M37 | QML3307 | Auto-Stop Driving Pawl | M60 | QXU0111 | Motor Assembly(with Motor Pulley) |
| M18 | QBJ3224 | Washer | M38 | QBT1846 | Auto-Stop Spring | M62 | QBN1583 | Rod Release Spring |
| M19 | QBC1272 | Back Tension Spring | M39 | QBW2046 | Washer | M63 | QBN1584 | Playback Rod Spring |
| | | | M40 | QML3305 | Auto-Stop Driving Lever | M64 | QBN1585 | Record Rod Spring |

SPECIFICATIONS

| | |
|--|----------------------|
| Pressure of pressure roller | 390 \pm 60 g |
| Takeup tension * Use cassette torque meter ... QZZSRKCT | 50 \pm 20 g |
| Wow and flutter: JIS * Use test tape ... QZZCWAT | Less than 0.4% (RMS) |

CABINET PARTS LOCATION



REPLACEMENT PARTS LIST

Important safety notice
Components identified by Δ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

| Ref. No. | Part No. | Part Name & Description | Ref. No. | Part No. | Part Name & Description |
|----------------------|------------|----------------------------------|--|---------------------|-------------------------|
| CABINET PARTS | | | ACCESSORIES | | |
| G1 | QYM0581W | Main Case Assembly | A1 | \square QQT4R3339 | Instruction Book |
| G1-1 | QKFK0039 | Cassette Lid | * For all European areas. | | |
| G1-2 | QBP1552 | Cassette Lid Spring | (Only for commodities of non-included AC Adaptor type) | | |
| G1-3 | QBJ1338 | Cassette Lid Holder | \square QQT4R3325 | | |
| G1-4 | XTN3+8B | Tapping Screw $\phi 3 \times 8$ | * For all European areas. | | |
| G2 | QYM4R0859K | Bottom Case Assembly | (Only for commodities of included AC Adaptor type) | | |
| G2-1 | QJB0111 | Battery Terminal | A2 | \square RP64E | AC Adaptor |
| G2-2 | QBN8007 | Battery Spring | * For all European areas. | | |
| G3 | QYFK0077 | Battery Cover Assembly | (Only for commodities of included AC Adaptor type) | | |
| G4 | QYH0079 | Handle Assembly | PACKINGS | | |
| G5 | QKT1172 | Speaker Holding Metal | P1 | \square QPN4R4354 | Inside Carton |
| G6 | QMF2105 | Microphone Holding Plate | * For all European areas. | | |
| G7 | XTN3+6B | Tapping Screw $\phi 3 \times 6$ | (Only for commodities of non-included AC Adaptor type) | | |
| G8 | XTN3+8B | Tapping Screw $\phi 3 \times 8$ | P2 | QPK0008 | Poly Sheet (for UNIT) |
| G9 | XTN3+16B | Tapping Screw $\phi 3 \times 16$ | P3 | \square QPA4R0694 | Pad (for AC Adaptor) |
| G10 | QGS4R2774 | Main Name Plate | * For all European areas. | | |
| | | | (Only for commodities of included AC Adaptor type) | | |
| | | | P4 | QPSK1075 | Pad |
| | | | P5 | QPAK1064 | Cushion |
| | | | P6 | XZB26X36A02 | Poly Bag (for UNIT) |